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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,502	10/24/2000	Kazumi Kimura	35.C14889	1071
5514	7590	06/10/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			PHAM, HAI CHI	
			ART UNIT	PAPER NUMBER
			2861	
DATE MAILED: 06/10/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/694,502

Applicant(s)

KIMURA, KAZUMI

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 13, 15, 16, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-8, 13, 15, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- The following limitation "said registration detecting unit ... effects correction control of correcting the scanning magnification" appears to be confused since such correction is being dedicated to the correcting unit as recited in the base claim 9.
- The first portion of the limitation "said registration detecting unit is disposed so as to be capable of detecting two image heights substantially symmetrical with respect to the optical axis of said scanning optical element" is redundant and should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4, 7-8 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. 6,452,687) in view of Kato (U.S. 5,963,356).

Suzuki discloses a color image forming apparatus for scanning light beam from at least one scanning optical apparatus, each of which comprises a light source (1), a deflecting element (polygon mirror 5), a scanning optical element (6), and a registration or scanning position detecting unit (detecting sensor portions 20a-c) for detecting the deflected beam on the scanned surface at a position corresponding to one image height separate from the optical axis of said scanning optical element (detecting sensor portions 20a and 20c disposed at the image heights of the main scanning line separate from the optical axis of the scanning lenses 6) (Fig. 4).

Although Suzuki et al. teaches using a synchronous detector (not shown) for detecting the passage of the deflected light beam to generate a horizontal synchronous signal based on which the lateral positional deviation of the left side or the timing of the start of the scan can be corrected, Suzuki et al. however fails to teach the optical element directing the deflected light beam to the detector (claim 1), the optical element being an anamorphic lens (claim 2).

Kato discloses a scanning optical apparatus including a BD lens (42) for guiding the deflected light beam from the polygon mirror (5) to the BD sensor (9), wherein the optical axis of the BD lens is coincident with a principal ray of the deflected beam from the polygon mirror, the BD lens being anamorphic.

Art Unit: 2861

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an anamorphic lens in the device of Suzuki et al. for guiding the deflected light beam to the beam detection sensor as taught by Kato. The motivation for doing so would have been allow the deflected beam to be focused on the light-receiving surface of the beam detection sensor.

With regard to claims 4, 7-8, 18-19, Suzuki et al. further teaches:

- Said scanning optical element being made of a plastic material (plastic toric lens 61),
- Said scanning optical element (6) comprising a refracting optical element and a diffracting optical element (col. 13, lines 25-29),
- Said scanning optical element effects correction control of correcting a scanning magnification in conformity with the output of said scanning position detecting unit (col. 13, lines 25-51).

With regard to claims 18 and 19, Suzuki et al. teaches the scanning position detecting unit detecting the deflected beam at two image height symmetrical in both upstream and downstream of the scanning direction, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize such teachings of Suzuki et al. to correct the positional deviation of the main scanning line based on a single detector located at either image heights since detecting one such image height position is inclusive of controlling the image heights at both ends of the scanning line in accordance with Suzuki et al.'s general teachings.

Art Unit: 2861

5. Claims 3, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Kato ('356), as applied to claim 1 above, and further in view of Kato (U.S. 6,822,666).

Suzuki et al., as modified by Kato ('356), discloses all the basic limitations of the claimed invention including the second optical element (cylinder lens 4) intermediate said light source (1) and said deflecting element (5) for converting a light beam from said light source into a linear image elongated in a main scanning direction (col. 13, lines 6-19), but except for the synchronous detection lens and the second optical lens being of a plastic material integrally molded by plastic injection molding.

Kato ('666) discloses a color image forming apparatus including at least one scanning optical apparatus being provided with a correction means for correcting the magnification error in the main scanning direction, each of the scanning optical apparatus including a scanning optical element having a refracting optical element (6) and a diffracting optical element (62) made of resin, a synchronous detection optical element (7) provided as an anamorphic lens for focusing the deflected light beam to the beam detection sensor and the second optical lens (4) as a cylindrical lens for producing linear images on the deflection plane of the polygon mirror in the main scanning direction, wherein the scanning optical element, the synchronous detection optical element and the second optical element being of a plastic material integrally molded by plastic injection molding.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the optical elements in the device of Suzuki et al. with plastic lenses as taught by Kato ('66). The motivation for doing so would have

been to provide inexpensive plastic lenses for effectively suppressing the jittering phenomenon of the scanning optical apparatus due to the variation of the multiple light beams and the lateral magnification due to environmental changes.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Kato ('356), as applied to claim 1 above, and further in view of Maekawa (U.S. 5,889,594).

Suzuki et al., as modified by Kato ('356), discloses all the basic limitations of the claimed invention except for the printer controller for converting code image data.

However, it is old and well known in the art that the device for converting the code data into image signal used to modulate the laser beam is part of the input interface of any printer, as evidenced by Maekawa, which discloses a printer controller unit (103) (Fig. 3) including an interface unit (306) for receiving an input data signal from an external device and an image data generating unit (303) for converting the received input code data into image data for an actual printing (col. 3, line 58 to col. 4, line 17).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the printer controller in the modified device of Suzuki et al. since Maekawa teaches this to be known in the art to provide a printer controller including the input interface unit and the image data generating unit such that the external code data can be converted into a usable data for modulating the laser beam of the laser printer.

Allowable Subject Matter

7. Claims 9 and 16 are allowed.
8. Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 1-8, 15 and 18-19 have been considered but are moot in view of the new grounds of rejection presented in this Office action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

June 7, 2005